

## Claims

- [1] A suture assisting and maintaining apparatus, comprising:  
a loop suture being threaded through skin as an elongated circle across both margins of a wide open wound;  
a tightening member for gathering both ends of the threaded loop suture at one point in order to tighten the threaded loop suture and for exerting a pressure of wound tightening force evenly on skin;  
a pulling member for pulling the loop suture in order to tighten the threaded loop suture;  
a housing member for housing the pulling member and making the loop suture tightened by transformation of a pulling force to a wound tightening force when pulling member pulls the loop suture out of skin; and  
a locking member for fixing a position of the pulling member in relation to the housing member constant by making movement of the pulling member in one-way to maintain the tightened status.
- [2] The apparatus as recited in claim 1, wherein the housing member is formed of an elastic member.
- [3] The apparatus as recited in claim 1, wherein a scale is marked on the housing member or the tightening member.
- [4] The apparatus as recited in claim 1, wherein the pulling member has saw tooth on outside surface of the pulling member and the locking member has another saw teeth on inside surface of the locking member in reverse form of the saw tooth on the pulling member to check the movement of the pulling member as one-way and to prevent slippage of the pulling member in opposite direction after pulling by engagement between the saw teeth of the pulling member and the saw teeth of the locking member.
- [5] The apparatus as recited in claim 1, further comprising a strain gauging means for measuring a strain force of the loop suture.
- [6] The apparatus as recited in claim 5, wherein the strain gauging means is formed of an elastic member and connected to the loop suture.
- [7] The apparatus as recited in claim 1, further comprising a buffering means for buffering of the strain force loaded on the loop suture.
- [8] The apparatus as recited in claim 7, wherein the buffering means is formed of an elastic member and inserted into a predetermined position of the pulling

member.

- [9] The apparatus as recited in claim 7, wherein the buffering means is formed of an elastic member and inserted into a predetermined position of the housing member.
- [10] The apparatus as recited in claim 7, wherein the elastic member is a coil spring.
- [11] The apparatus as recited in claim 1, further comprising a loosening means for releasing the over-tightened loop suture by adjusting the position of the pulling member.
- [12] The apparatus as recited in claim 11, wherein the loosening means includes: a female nut formed at one end of the housing member; and a loosening bolt formed on the locking member.
- [13] The apparatus as recited in claim 4, further including a loosening means with a cover having a saw teeth on inside surface of the cover, wherein the saw teeth is engaged or disengaged with another saw tooth on the pulling member by opening the cover from the loosening means in order to adjust the position of the pulling member.
- [14] The apparatus as recited in claim 11, wherein the loosening means includes: a winding screw for winding the pulling member in order to tighten the loop suture; and a winding screw handle for being connected to the winding screw and providing a torque to wind the pulling member.